

WHAT IS CLAIMED IS:

1. A focusing control mechanism for focusing an objective lens when observing an object under inspection using the objective lens, the mechanism comprising:

a distance sensor provided in a fixed geometric relation to the objective lens;

a storage means for storing data representing the shape of a convex or concave pattern of the object under inspection and data representing a spatial sensitivity distribution of the distance sensor;

means for moving either or both of the objective lens and object under inspection relatively in direction towards or away from each other; and

means for controlling the operation of the moving means;

the controlling means calculating, based on the data representing the shape of convex or concave pattern of the object under inspection and data representing the spatial sensitivity distribution of the distance sensor, both stored in the storage means, a deviation of the shape of a convex or concave pattern recognized by the distance sensor from the real shape of convex or concave pattern, to provide a correction value, compensating for an output from the distance sensor with the correction value to determine a target moving distance, and controlling the operation of the moving means according to the target moving distance.

2. The mechanism as set forth in claim 1, wherein as data representing a

convex or concave pattern of the object under inspection, coordinate data of two points each representing one convex or concave pattern is stored in the storing means; and

the controlling means recognizes a rectangular area whose diagonal is a line connecting the two points as a real contour of the convex or concave pattern.

3. The mechanism as set forth in claim 1, wherein a capacitance sensor is provided as the distance sensor.

4. An inspection apparatus comprising:

an illuminating means for illuminating an object under inspection with an illumination light converged by an objective lens;

an imaging means for imaging the object under inspection; illuminated by the illuminating means;

an inspecting means for processing an image picked up by the imaging means to inspect the object under inspection;

a distance sensor provided in a fixed geometric relation to the objective lens;

a storage means for storing data representing the shape of a convex or concave pattern of the object under inspection and data representing a spatial sensitivity distribution of the distance sensor;

means for moving either or both of the objective lens and object under inspection relatively in direction towards or away from each other; and

means for controlling the operation of the moving means;

the controlling means calculating, based on the data representing the shape of convex or concave pattern of the object under inspection and data representing the spatial sensitivity distribution of the distance sensor, both stored in the storage means, a deviation of the shape of a convex or concave pattern recognized by the distance sensor from the real shape of convex or concave pattern, to provide a correction value, compensating for an output from the distance sensor with the correction value to determine a target moving distance, and controlling the operation of the moving means according to the target moving distance.

5. The apparatus as set forth in claim 4, wherein as data representing a convex or concave pattern of the object under inspection, coordinate data of two points each representing one convex or concave pattern is stored in the storing means; and

the controlling means recognizes a rectangular area whose diagonal is a line connecting the two points as a real contour of the convex or concave pattern.

6. The apparatus as set forth in claim 4, wherein a capacitance sensor is provided as the distance sensor.

7. The apparatus as set forth in claim 4, wherein the illuminating means illuminates the object under inspection with an illumination light having a wavelength falling within an ultraviolet domain.